

Bachelor of Science in Electrical Engineering with Aerospace Focus

Required 129 credits (36 of which must be numbered 300 or above) including:

I. Essential Studies Requirements (see University ES listing).

II. Electrical Engineering required courses

| Code | Title | Credits |
|----------------------|--|-----------|
| EE 101 | Introduction to Electrical Engineering | 1 |
| EE 201 & 201L | Introduction to Digital Electronics and Digital Electronics Laboratory | 4 |
| EE 206 & 206L | Circuit Analysis and Circuits Laboratory I | 4 |
| EE 304 | Computer Aided Measurement and Controls | 3 |
| EE 313 & 313L | Linear Electric Circuits and Circuits Laboratory II | 4 |
| EE 314 & 314L | Signals and Systems and Signal and Systems Laboratory | 4 |
| EE 316 | Electric and Magnetic Fields | 3 |
| EE 318 | Engineering Data Analysis | 3 |
| EE 321 & 321L | Electronics I and Electronics Laboratory I | 4 |
| EE 405 & 405L | Control Systems I and Control Systems Laboratory | 4 |
| EE 421 & 421L | Electronics II and Electronics Lab II | 4 |
| EE 452 & 452L | Embedded Systems and Embedded Systems Design Laboratory | 4 |
| EE 480 | Senior Design I | 3 |
| EE 481 | Senior Design II | 3 |
| Total Credits | | 48 |

III. Program Required Electives

| Code | Title | Credits |
|--|--------------------------------|-----------|
| Electrical Engineering Electives ² | | 9 |
| Non-Electrical Engineering Electives ³ | | 3 |
| CE 306 | Fluid Mechanics | |
| CSCI 242 | Algorithms and Data Structures | |
| CSCI 260 | Advanced Programming Languages | |
| ENGR 201 | Statics | |
| ENGR 202 | Dynamics | |
| ENGR 203 | Mechanics of Materials | |
| MATH 208 | Discrete Mathematics | |
| ME 301 | Materials Science | |
| ME 306 | Fluid Mechanics | |
| ME 341 | Thermodynamics | |
| Total Credits | | 12 |

IV. College of Engineering and Mines Requirements

| Code | Title | Credits |
|----------------------|---------------------------------------|----------|
| ENGR 340 | Professional Integrity in Engineering | 3 |
| ENGR 460 | Engineering Economy | 3 |
| Total Credits | | 6 |

V. Requirements outside of the College of Engineering and Mines

| Code | Title | Credits |
|----------------------|--|-----------|
| CHEM 121 & 121L | General Chemistry I and General Chemistry I Laboratory | 4 |
| MATH 165 | Calculus I | 4 |
| MATH 166 | Calculus II | 4 |
| MATH 207 | Introduction to Linear Algebra | 2 |
| MATH 265 | Calculus III | 4 |
| MATH 266 | Elementary Differential Equations | 3 |
| PHYS 251 | University Physics I | 4 |
| or PHYS 251C & 251CL | University Physics I and University Physics I Lab | |
| PHYS 252 | University Physics II | 4 |
| or PHYS 252C & 252CL | University Physics II and University Physics II Lab | |
| Total Credits | | 29 |

VI. Aerospace Focus Requirements

| Code | Title | Credits |
|---------------------------|-------------------------------------|-----------|
| AVIT 102 | Introduction to Aviation | 5 |
| AVIT 126 | Introduction to UAS Operations | 2 |
| AVIT 221 | Basic Attitude Instrument Flying | 3 |
| Aviation Electives | | 6 |
| AVIT 250 | Human Factors | |
| AVIT 309 | Flight Physiology | |
| AVIT 324 | Aircraft Systems | |
| AVIT 325 | Multi-Engine Systems and Procedures | |
| AVIT 327 | Gas Turbine Engines | |
| AVIT 428 | Transport Category Aircraft Systems | |
| Total Credits | | 16 |

¹ Grade "C" or better in all EE courses required for graduation.

² Maximum of three credits of EE 490 Electrical Engineering Problems. Electrical Engineering Problems. Electrical Engineering Problems is allowed as an independent study, it can count towards one of the Electrical Engineering or non-Electrical Engineering elective requirements, it cannot be double counted. 2 credits of EE 397 Cooperative Education Cooperative Education (40 hours/week) is equivalent to 3 credits of the EE Electives with S/U grading, maximum 4 credits of EE 397 is equivalent to maximum of 6 credits of EE Elective.

³ Non-EE Elective choices: Engr 201 Statics, Engr 202 Dynamics, Engr 203 Mechanics of Materials, ME 301 Materials Science, ME/CE 306 Fluid Mechanics, and ME 341 Thermodynamics, Computer Science, Engineering (including EE), Math, and Physics courses approved by advisor, normally 300 level or higher. Math 308 History of Math and Math 321 Applied Statistical Methods do not meet non-EE elective requirement.

⁴ Students must ensure all appropriate pre-requisites are met prior to registering for all courses in the curriculum.